Propagation
A Journal of Science Communication

VOLUME 3, NO. 1, JANUARY, 2012

Girish Chandra Bose: A Pioneer in Indian Agriculture

Chittabrata Palit

Abstract

In 1881 Girish Chandra Bose went to London on a Bengal Government scholarship for higher studies in agriculture. He believed that economic self-sufficiency was possible only through the development of agriculture. In 1886 he set up Bangabasi School for the dissemination and expansion of agricultural knowledge. Girish Chandra was a man of liberal and progressive views. The great contribution of Girish Chandra was in the field of education. According to him Indian agriculture is pre-eminently a petite culture and forms the backbone of the Indian village community of which the cultivator or ryot is the unit. The great problem of agriculture in India is the storing of water in the soil. Considering the soil, the climate, and the other conditions under which they have to work, the cattle are well adapted to the purposes of the ryot. It is true that there is never a dearth of wheat. For western India it is bajra or millet which sustains the entire belt of Gujarat, Maharashtra and Madhya Pradesh. The traditional wells and tank irrigation in India particularly in south and artesian wells in Rajasthan can be better means of rain harvesting and permanent solution to drought. To sustain agronomy, commercial agriculture has to be encouraged in area specific regions.

Girish Chandra Bose was born on 29th October, 1853, at the tiny village of Berugram in the district of Burdwan. From early boyhood, he showed a remarkable keenness and desire for knowledge which was greatly encouraged by his father Janaki Prasad Bose. Girish Chandra passed the Entrance Examination from the Hughli Branch School in 1870, FA and BA from the Hughli College in 1873 and 1876 respectively. After graduating, he joined Ravenshaw College, Cuttack as a lecturer of Botany. While teaching there, he obtained the MA degree in 1878.

In 1877 he married Nirad Mohini Devi, youngest daughter of Peary Charan Mitra of Burdwan. This marriage brought him in close contact with Pandit Iswar Chandra Vidyasagar.

In 1881 he went to London on a Bengal Government scholarship for higher studies in agriculture. In recognition of his extraordinary academic talent, he was made a life member of the Royal Agricultural Society in 1882 and was elected a Fellow of the Chemical Society of England in 1883. After completing his studies, Girish Chandra travelled to Scotland, France and Italy before returning home in 1884.

Girish Chandra believed that economic self-sufficiency was possible only through the development of agriculture. Within a year of his arrival in India from England, Girish Chandra started in April 1885 the first Indian Agricultural Journal which brought agricultural knowledge to the door of the masses. The weekly Journal was published in two languages, *Krishi Gazette* in Bengali and *Agricultural Gazette* in English. To this end he also wrote several books on botany and agriculture, among them *A Manual of Indian Botany*, *Bhu-tattva* (1882), *Krishi Darshan* (1st part, 1897), *Krishi Sopan* (1888), *Krishi Parichay* (1890), *Gachher Katha* (1910) and *Udbhid Jnan* (1923-25). *Bilater Patra* (1876) and *Europe Bhraman* (1884) narrate his European experience.

Girish Chandra had felt that an Agricultural journal can touch only a fringe of our greatest national problems; what was really needed was an institution on the model of Cirencester. He was among the first Indian stalwarts who had realized that the prosperity of our Motherland lay in the banishment of illiteracy and poverty. As a student in Cirencester, England he had studied in the minutest detail the American, British and Continental advancements in the twin domains of education and agriculture. He had gone to Cirencester not for securing a degree that would serve as a passport for a lucrative job for his personal gain. He had gone there to gather first hand knowledge of how a modern agricultural college worked for the benefit of the dumb millions, the poor and neglected sons of the soil. He had in his heart of hearts the keen desire to learn the technique of improving the economic condition of eighty per cent of our population who depend on agriculture. He had realised that in education constituted the strength of a nation.

In 1886 he set up Bangabasi School for the dissemination and expansion of agricultural knowledge. The idea of the institution originated with Principal Bose and the encouragement came from Pandit Iswar Chandra Vidyasagar. This was the first non-official and independent venture to establish an agricultural institution without any sort of Government aid or support. The school was upgraded into a college the next year. The patriot in Girish Chandra had taken upon himself a burden that was too heavy for the shoulders of an individual. The financial strain proved too heavy for him. The Agricultural Section of the Bangabasi School died out but its General Section was a success. It soon grew into a first grade College. Girish

Propagation
A Journal of Science Communication

Chandra was compelled under the circumstances to sacrifice the agricultural section, but in the general section he introduced the basic sciences of Botany and Chemistry that constituted the foundation of agricultural studies. Girish Chandra served the college as its Principal from 1887 to 1933 and in 1935 was nominated Rector.

Girish Chandra was a member of the University of Calcutta Senate and Syndicate. He was President of the Science Section of Bangiya Sahitya Sammelan (1919) and the founder president of the Botanical Society of Bengal (1935).

Girish Chandra was a man of liberal and progressive views. He did not believe in either caste-distinction or untouchability. He believed in work much more than in talk. He had a deep respect for women and stood for the spread of education among them. Girish Chandra was not an active participant in the nationalist movement, but his ardent patriotism and sense of national pride gave him a high place among the nationalists of the time. The great contribution of Girish Chandra was in the field of education. He thoroughly studied the educational system in foreign countries and believed in the dictum – 'from education and knowledge springs all power'.

Girish Chandra Bose died on 1st January, 1939.

Some instances of Girish Chandra Bose's writings from Pramatha Nath Bose's book:

"Indian rural economy is marked by two broad features which it is desirable at the outset to place clearly before our readers. First, it is no exaggeration to say that nearly the whole of the rural population lives by the cultivation of the soil, a statement which can hardly be made of any other country in the world. The famine Commissioners estimate that 90 per cent of the rural population lives more or less by agriculture. Secondly, Indian agriculture is pre-eminently a petite culture and forms the backbone of the Indian village community of which the cultivator or ryot is the unit. The village contains no doubt the blacksmith, the carpenter, the weaver, the potter and other handicraftsmen besides the ryot, but all alive for his benefit and are supported by the produce of his land. Take away the unit – the ryot – the whole village organization breaks down. Various causes are now at work tending to draw the ryot from his land, to increase in fact the non-agricultural or landless class; but the love of the ryot for his small plot of land and homestead is so great that generations must yet elapse before this tendency will have any appreciable effect in disturbing the ancient rural organization of India. The ryot clings to his district with a tenacity which it is extremely difficult for an outsider to realize. Hence it is that the system of emigration devised by the Government with the best of intentions draw half-starved peasants from congested areas to sparsely populated ones, has not met with that amount of success which the system deserves."

Simplicity of Indian Agriculture

The systems of agriculture pursued in different parts of India vary infinitely in detail, but they all agree in one broad aspect, – simplicity. The implements of cultivation from the plough to the sickle are extremely simple in their construction and in the mode of their working; they are all manufactured, changed, and repaired in the village without any assistance from skilled town-mechanics. The motive power of the ryot, the inevitable bullock, supplemented here and there by the buffaloe, excepting in Sindh and the western districts of the Punjab where camels replace the bullock, is easy to manage, to breed, to feed, to doctor, and to buy and sell. The various operations of husbandry are equally simple. Ploughing in the English sense of turning up a furrow is unknown and perhaps unnecessary in this country, where it is a much simpler operation which turns up no furrow but merely scratches the surface soil, and requires no complicated implement like the English plough or skilled workman like the English plough-man. So on with the rest.

General Aspects of the Indian Agriculture

The great problem of agriculture in India is the storing of water in the soil. In this respect it differs totally from agriculture in Europe where the drainage of surplus water is the main difficulty. This essential requisite of Indian cultivation, except in localities where natural means are sufficient, is supplied by wells, as in the Punjab and the Decan, by tanks and *bandhs*, as in the Karnatic and the uplands of Bengal, by inundation channels as in Sindh and parts of Bihar, and by terraces cut on every hill side which together water a far larger area than is commanded by the Government canals and are more adapted to the soil, climate and social conditions of the people than the latter. But all these means of irrigation taken together do not command more than 13 per cent of the total cultivated area. In a country like India where rainfall is capricious, both in its amount and distribution, and where the conservation of water is the first and most essential requisite of cultivation, the proper control of the water-supply

becomes a question of paramount importance more so than the introduction of labour-saving implements, chemical manures and scientific methods of cultivation. Manures are copiously applied to his valuable crops by the ryot who knows fully well the forcing power of his applications; but his scope in this direction is limited both by the number of manures at his disposal and their quantity. Scientific agriculture can help him more in this than in any other department of his profession. Rotation of crops in its European sense is unknown and not at all a necessity in the vast rice-growing deltas of the great Indian rivers. But at the same time the exhausting effects of cropping a land with the same crop from year to year and the recuperative power of fallows are widely recognized. From the famous 'black' or 'cotton' soil of the Deccan, which is wonderfully fertile and retentive, and the alluvial soil of the river deltas, annually rejuvenated, to the deserts of Sindh and Rajputana, the soils present an infinite variety; and the ryot has adapted his cultivation to these varying conditions with a skill which only the accumulated experience of ages can generate in persons who follow a hereditary calling. The plough-cattle of India speaking generally are not such undersized, ungainly and inefficient creatures as foreigners have often described them. Considering the soil, the climate, and the other conditions under which they have to work, the cattle are well adapted to the purposes of the ryot. No doubt there are local breeds such as the Nellore cattle of Madras, the Amrit Mahal of Mysore and the trotting bullocks of Jubbulpore, which in point of breeding, beauty, and the special purposes for which they are bred can stand comparison with any cattle in the world. But even the much condemned ordinary plough-cattle of the country, if not carefully bred, are well looked after and well fed so far as the poor ryot's means allow. His means however, which are never very affluent, fall to their lowest ebb in seasons of scarcity; and his cattle have to share with him the pinch of penury and starvation which claim as victims thousands and thousands of their number annually. Add to this the heavy mortality due to various forms of cattle diseases which follow in the wake of scarcity, and the causes of the insufficiency and degeneracy of Indian cattle become apparent. Mr. Hume, a late Secretary to the Government of India in the Department of Revenue and Agriculture, estimates 'the average annual loss of cattle in India by preventable disease at 10 million beasts worth 7½ millions sterling.'

The author, Pramatha Nath Bose, states in the preface to his book: "I have also to gratefully acknowledge my obligations to Mr. G. C. Bose, M.A., M.R.A.C. for the chapter on agriculture".

Reviewing the book in the Calcutta Review, Romesh Chandra Dutt remarked: "We must hasten, however, to the Fourth Book, the last in these volumes, which contains interesting and valuable information about Agriculture and Industries. Mr. G. C. Bose, a specialist in Indian Agriculture, contributed the chapter on Agriculture, and it is in every way worthy of him."

Here an evaluation of his main arguments needs to be emphasized.

* An alarm for lack of food securities is sounded from time to time from colonial days based on rice economy alone. But Bose points out in his long article that food is not the only subsistence for India. It only applies to east and south. But in north India wheat has used to be the main serial. There is never a dearth of wheat. For western India it is bajra or millet which sustain the entire belt of Gujarat, Maharashtra and Madhya Pradesh. This kind of a mixed diet is habitual with Indians and can sustain the nation. This diversity has to be promoted by all means.

* Irrigation by river water through construction of huge dams or long grid of canals is not always satisfactory and is also expensive. The traditional wells and tank irrigation in India particularly in south and artesian wells in Rajasthan can be better means of rain harvesting and permanent solution to drought.

* To sustain agronomy, commercial agriculture has to be encouraged in area specific regions. Thus, jute for Bengal, tea for Assam, cotton for the Deccan, sugarcane and surplus wheat for Uttar Pradesh and Punjab should be especially encouraged through rotation of crops. These are traditional cash crops and need no special effort to promote them.

* He also thought that agro based industry should be promoted. But shall in tradition skill of the people in rural areas like pottery, basket making, mats, bell metal industries should be encouraged to fight seasonal unemployment.

Propagation
A Journal of Science Communication

References

1. Bose, Girish Chandra, Banglapedia. Web.
2. Bose, Girish Chandra, Dictionary of National Biography, Volume I (A-D), S. P. Sen (Ed.), Institute of Historical Studies, Calcutta, 1972, Page – 212-213.
3. Bangabasi College, Diamond Jubilee, Souvenir, 1887-1947, Published by the Diamond Jubilee Celebrations Committee.
4. A History of Hindu Civilisation during British Rule, Pramatha Nath Bose, published in 1894, Vol ii, Book IV.
5. Calcutta Review, 1895, Vol 100, page 128.

Prof. Chittabrata Palit, an eminent science historian, retired as Professor, Jadavpur University, Kolkata. Prof. Palit is Director of Institute of Historical Studies, Kolkata.
corpusri@gmail.com